SUMMARY OF THE NATIONAL DATABASE COMMITTEE MEETING JUNE 28, 2000

The National Database Committee of the National Environmental Laboratory Accreditation Conference (NELAC) met on Wednesday, June 28, 2000, at 9 a.m. Eastern Daylight Time (EDT) as part of the Sixth NELAC Annual Meeting in Williamsburg, VA. The meeting was led by its chair, Mr. Matthew Caruso of the New York State Department of Health. A list of action items is given in Attachment A. A list of participants is given in Attachment B. *The purpose of the meeting was to present the development status for the NELAP National Database and discuss any current issues.*

STATUS OF DEVELOPMENT ACTIVITIES

Mr. Bruce Lane from Technology Planning & Management Corporation (TPMC), developers of the National Environmental Laboratory Accreditation Program (NELAP) National Database, presented the status of development activities for the database. He provided a systems overview, followed by a detailed account of the current database status.

Purpose

Mr. Lane said that the NELAP National Database will be a centralized information store that allows NELAC, its partners, and the general public to retrieve accurate and current information about the participating organizations, including recognized accrediting authorities (AAs), third party assessors, and accredited laboratories.

Project Scope

The project scope for the database is divided into three general phases:

- requirements analysis
- design
- development testing and deployment

The purpose of Phase I, requirements analysis, was to identify and document the general technical and functional activity requirements for the database. The resulting high-level requirements form the basis for future database requirement refinement and development activities. The requirements analysis was completed and accepted by the U.S. Environmental Protection Agency (EPA) in Fall 1998.

Phase II, application and database design, was completed and accepted by EPA in Summer 1999. Tasks included:

- Perform a detailed Functional Process Analysis of the system, taking into account the EPA-accepted Requirements Analysis and input from NELAC stakeholders.

- Develop a Logical Database Design and System Model supporting the EPA-approved Functional Process Analysis.
- Develop data standards to support the integration of the system with existing automated systems operated by NELAC stakeholders.

The goal of Phase III, development testing and deployment, is to employ the approved logical and physical design documents and develop a web-based database application supporting the needs of NELAP (e.g., forms and reports).

System Characteristics

The NELAP National Database is a relational, open database connectivity (ODBC)-compliant database, developed using Oracle development tools. It will be EPA operated and maintained. The user application tool will be a web-based and will incorporate EPA security standards for public access. In addition, functionality for integrated/bulk data uploads will be employed. Other characteristics include electronic change notification, management reports for the general public, and electronic records management (for database administration and audit tracking).

Functional Capabilities

Designed system functional capabilities include:

- recognized AAs (including associated reciprocity)
- accredited laboratories (including fields of testing and dates of accreditation)
- third party assessors
- proficiency testers (NVLAP)
- administration of the accrediting authority recognition process (new capability to track applications through the life of the process)

Project Challenges

Project challenges include:

- maturation of program requirements
- incremental project approach
- non-standardized stakeholder capabilities
- deployment within EPA

OPEN DISCUSSION

Storage of Historical Data

A participant asked whether future enhancements include storage of historical data. It is important to be able to determine status of a laboratory at a given date. He said that lack of historical record would limit the usefulness of the database. A committee member responded that it is not in the current plans for the database and the committee does not know what level of resources will be available for this. The AA should be able to tell the client what a laboratory's accreditation status was at a particular point in time. Another participant said that was not a viable option. They do not want to spend a lot of time trying to find out who the primary AA was at a particular time in order to determine the laboratory's status during a certain time frame. Another committee member said that he thinks the data is currently being stored, however the module for accessing this data has not been developed. Mr. Lane responded that last year a significant change was made to the database design to allow historical tracking of a laboratory's data. Previously the database was limited to audit tracking information.

User Support

A participant asked what kind of support would be available for working with the database. Mr. Lane said that there will be a User's Guide and on-line help for the internet tool. For the bulk upload functionality, an Upload Data Specifications Document will be put together that includes the file structure and required codes. TPMC will also try to make themselves available to answer basic questions. Accrediting authorities will be responsible for writing their own code for data conversion.

Fields of Testing/Scope of Accreditation Issues

There was some discussion about the fields of testing/scope of accreditation issues. Mr. Caruso said that questions about these basic building blocks must be resolved. Methods for adding additional analytes or analysis methods are built into the system. However, addition of new fields to the database will complicate the development of the user application. The additional permutations will require additional data entry screens. Mr. Lane said that from a purely database operations standpoint, they can make whatever changes are necessary. However, with a January 2001 deadline, time is an issue. A significant change in the database structure will cause a setback in schedule. There will have to be some discussion within EPA about the requirements document. A participant pointed out that other databases would be also affected by this change (e.g., the AAs' databases).

A participant asked how difficult it would be to take a standard format such as a Microsoft Access database or a Lotus spreadsheet and translate to the NELAP National Database. Mr. Lane responded that the translation will not take place on the database side. A participant commented that if this could be done, it would help the states with smaller databases. Representatives from eight of the eleven accrediting authorities were present at the meeting. Mr. Lane asked how many plan to perform data entry on-line rather than using bulk upload. Participants responded that they would only perform manual data entry for small changes (not for normal database population). Mr. Lane then suggested

that they may be able to fall-back and focus on a database maintenance screen rather than the data entry screens (with less user-friendliness) in order to meet the January 2001 deadline.

Upload Frequency

A participant asked whether there are requirements for upload frequency. Mr. Lane responded that frequency is not an issue for the database. The committee directed the participant to Chapter 6 for frequency requirements. A committee member said that he thought a frequency of every two weeks was required if data changes. Another participant questioned the timeliness of database updates. Mr. Lane said that updates to the database are as close to real time as possible. If a data transmission fails or a required piece of data is missing, then the user will receive a message immediately.

Funding Resources

A participant asked about EPA's commitment for funding and resources for the database. A committee member responded that the Office of Research and Development (ORD) is providing funding for the development. As the database moves from development into production, other funding resources are available. EPA's National Technical Service Division has a contractor (Lockheed Martin) to manage the production database. If the database requires additional development, funding resources from ORD are uncertain (managed on a case-by-case basis).

Firewall Issues

Firewall issues were another concern. A participant said that preliminary tests of their system showed that the outgoing firewall was a concern (not the incoming firewall). Mr. Lane said that in recent months there have been changes on how EPA allows access to data. EPA will have to resolve the firewall issues.

Miscellaneous

A participant said that there may be a need to relate environmental measurements to human-related measurements (e.g., health services). A committee member responded that this will probably be done on the states' end.

Attachment A

ACTION ITEMS
NATIONAL DATABASE COMMITTEE MEETING
JUNE 28, 2000

Item No.	Action	Date to be Completed
1.	No action items assigned.	

Attachment B

PARTICIPANTS
NATIONAL DATABASE COMMITTEE MEETING
JUNE 28, 2000

Name	Affiliation	Address
Caruso, Matthew Chair	NY State Dept. of Health	T: (518)485-5570 F: (518)485-5568 E: caruso@wadsworth.org
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Lloyd, Jenny (Contractor Support)	Research Triangle Institute	T: (919)541-5942 F: (919)541-5929 E: jml@rti.org

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The National Environmental Laboratory Accreditation Program National Database

Status of Development Activities

NELAC Sixth Annual Meeting Williamsburg, VA June 28, 2000

tpmc

Technology Planning & Management Corporation
Specialists in Technology Management

Database Purpose

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Project Scope

Phase I

Requirements Analysis

Phase II

Design

Phase III

Development
Testing
Deployment

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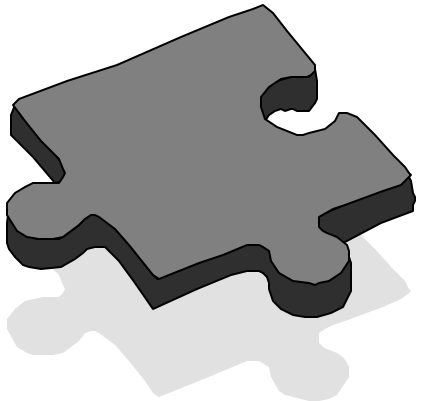
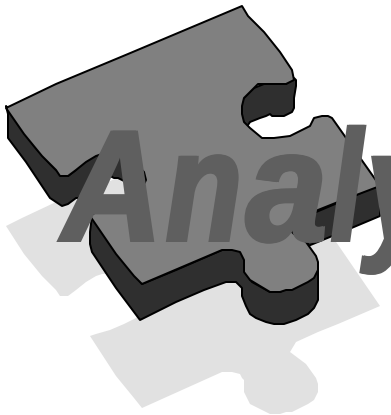
Requirements Analysis





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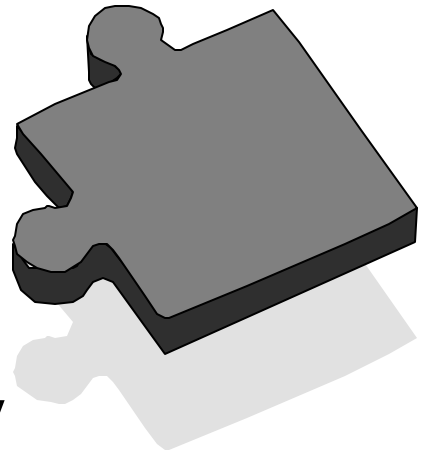

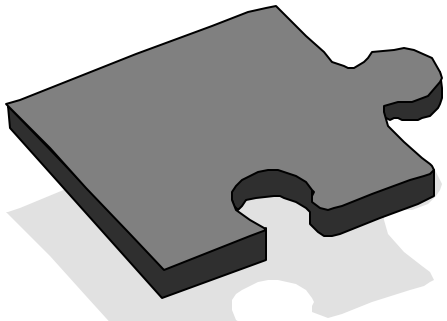

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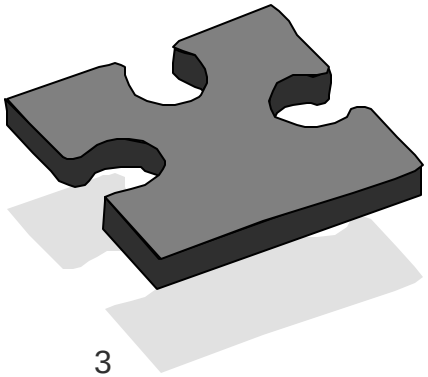

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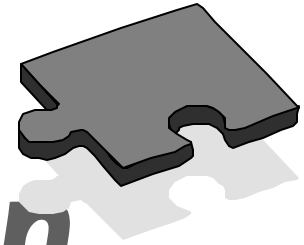
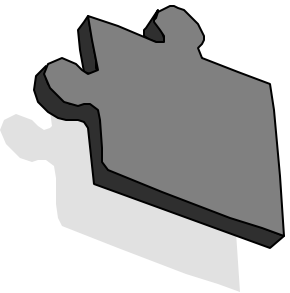
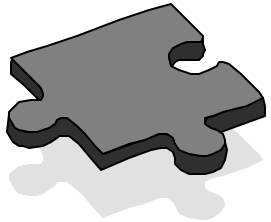
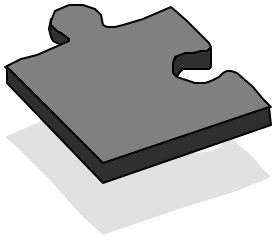
Application & Database Design

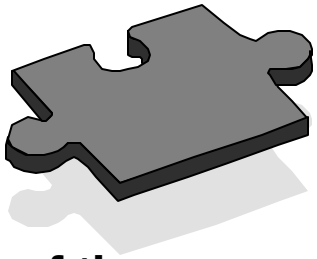



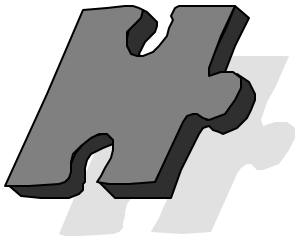


Perform a detailed Functional Process Analysis of the system, taking into account the USEPA-accepted Requirements Analysis and input from NELAC Stakeholders.

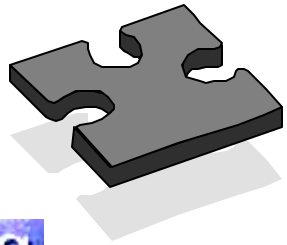


Develop a Logical Database Design and System Model supporting the USEPA-approved Functional Process Analysis.





Develop data standards to support the integration of the system with existing automated systems operated by NELAC Stakeholders.



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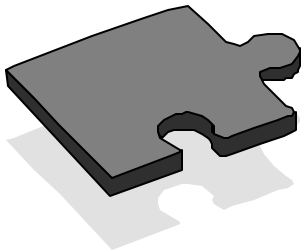

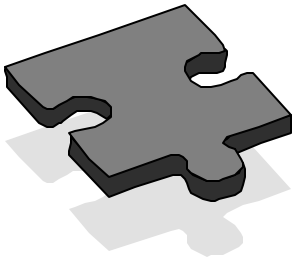

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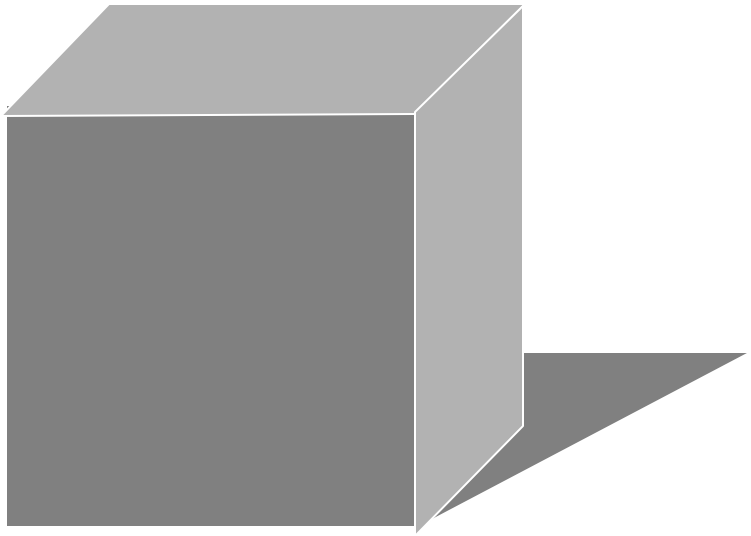
Development, Testing, & Deployment

Employing the approved logical and physical design documents, develop a Web-based database application supporting the needs of NELAP.



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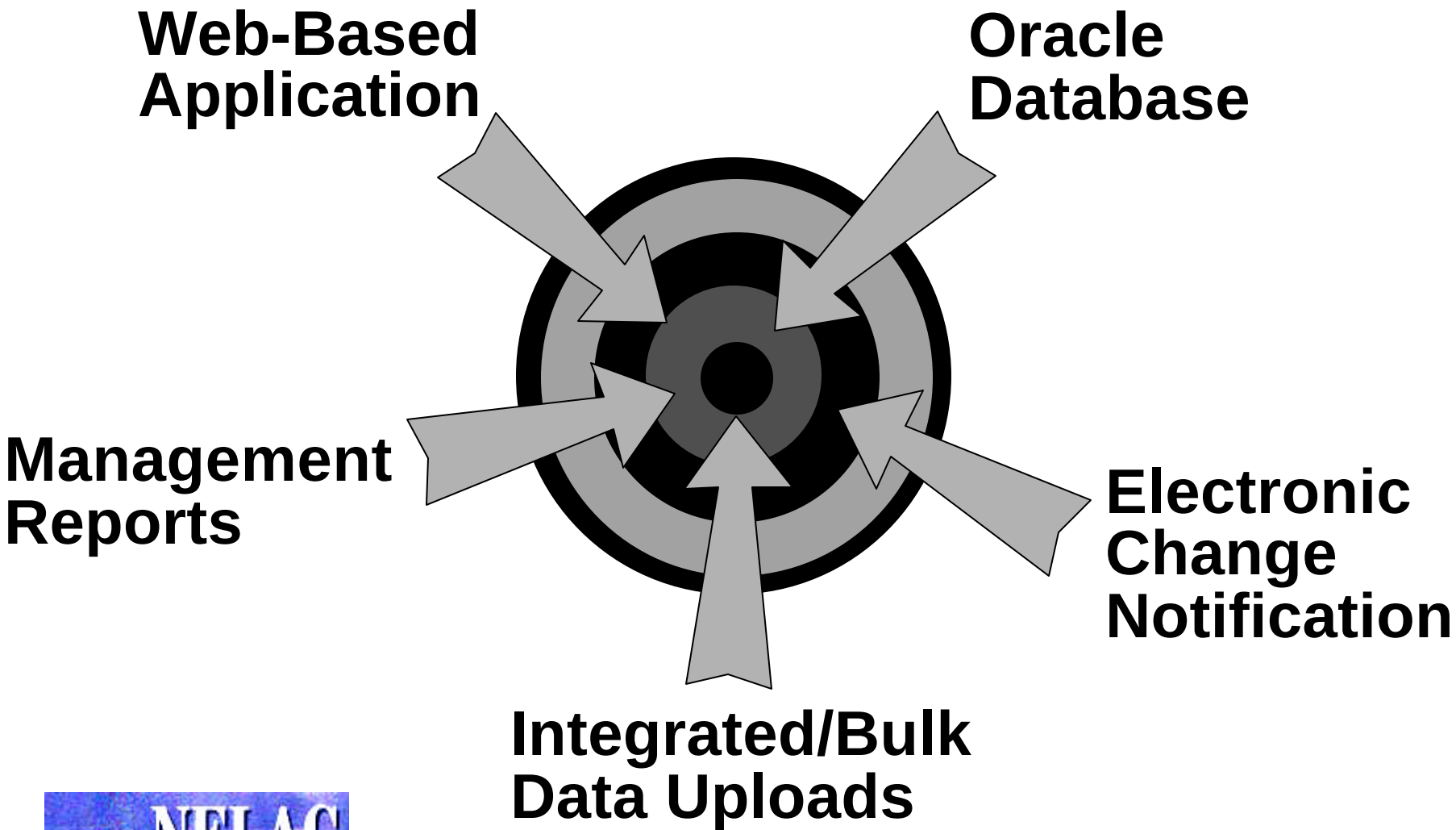
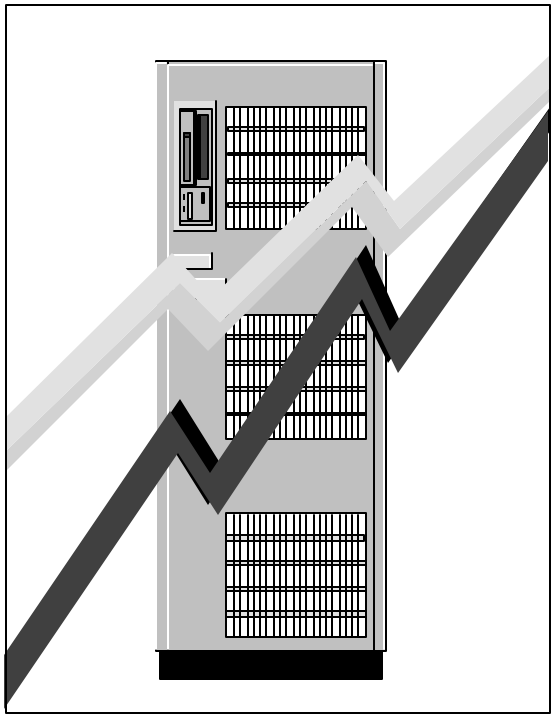
System Characteristics



Designed Database Characteristics



- Oracle
- Relational
- Web Enabled
- Batch Uploading of Data
- Access via Internet
- Y2K Compliant
- ODBC Compliant
- EPA Operated
- EPA Maintained

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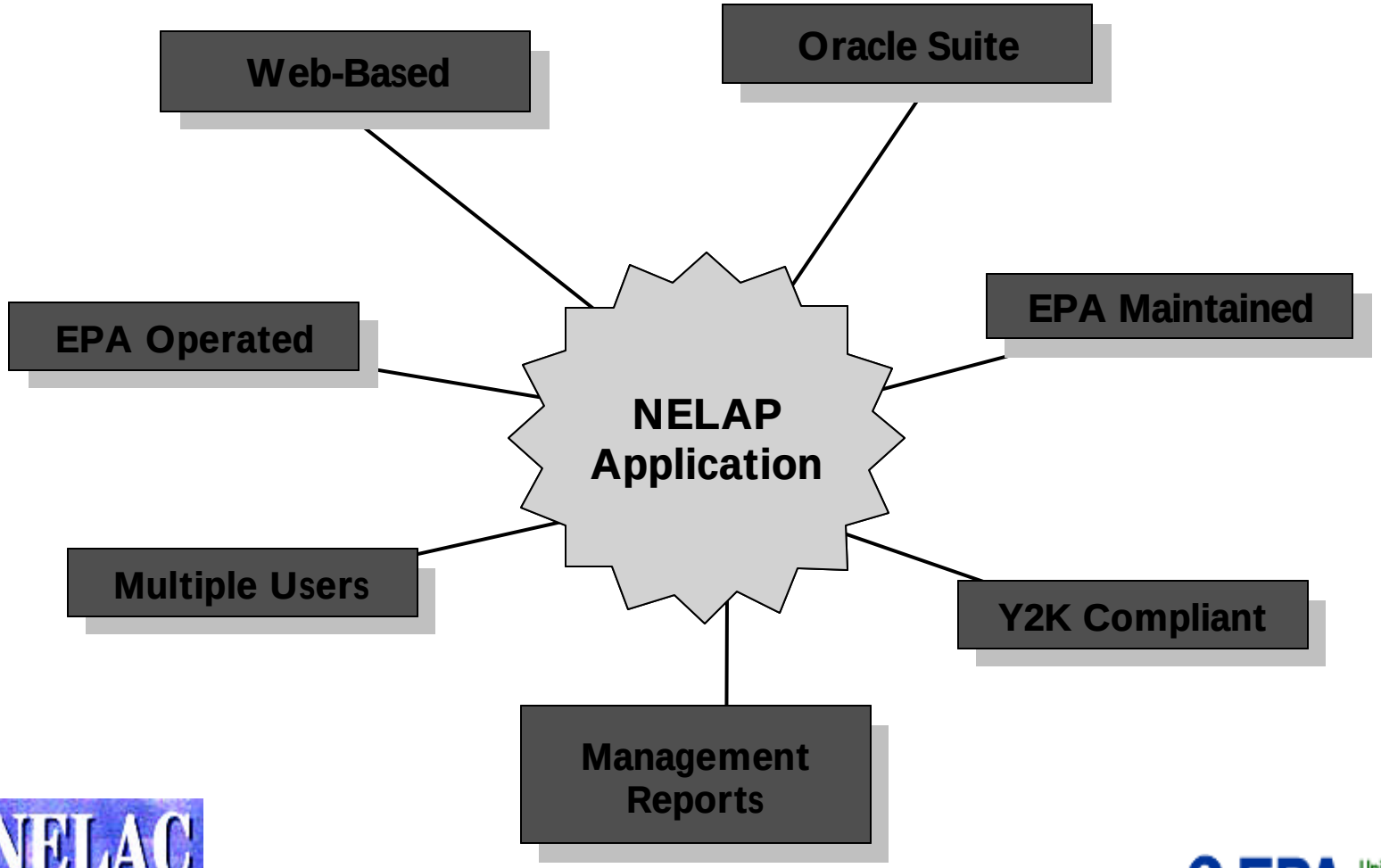
Designed Application Characteristics



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Designed System Functional Capabilities

- Recognized Accrediting Authorities (including associated reciprocity)
- Accredited Laboratories (including Fields of Testing)
- Third Party Assessors
- Proficiency Testers (NVLAP)
- Administration of the Accrediting Authority Recognition Process

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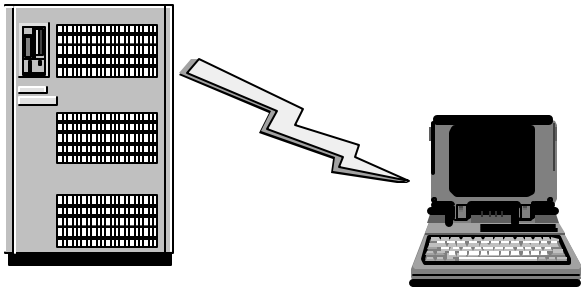
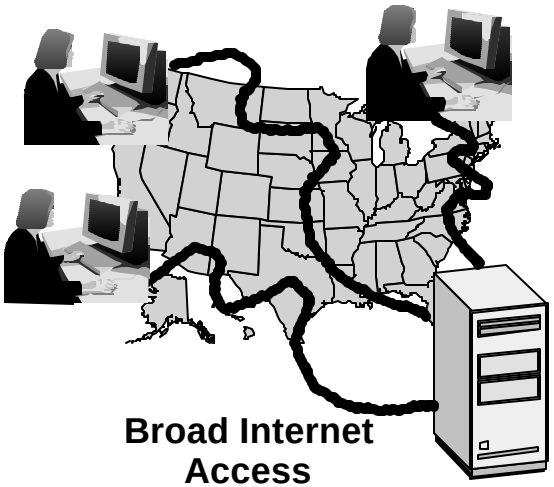
Designed System Operational Capabilities

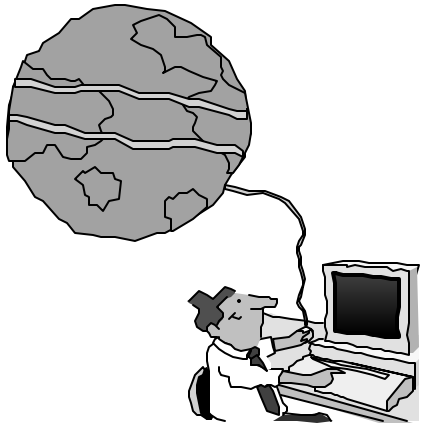


Automated Change Notification

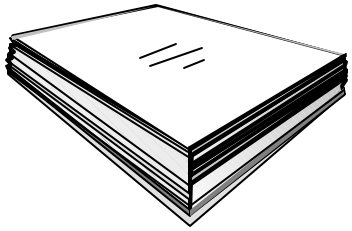


Broad Internet Access

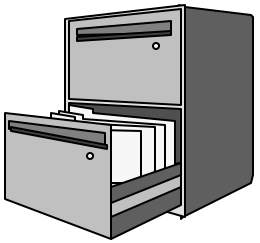
Security



Bulk Upload Capability



Management Reports



Electronic Records Management

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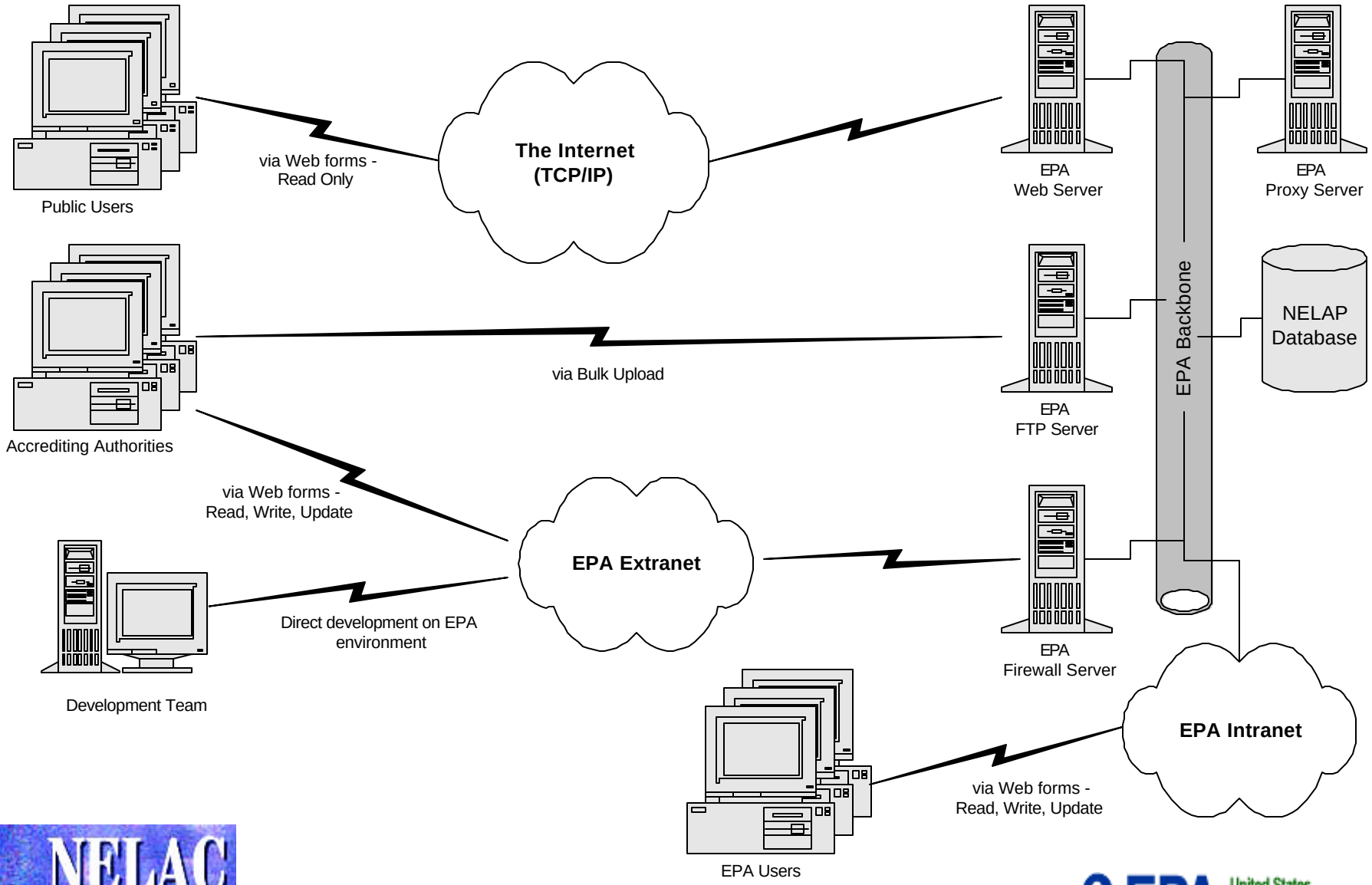
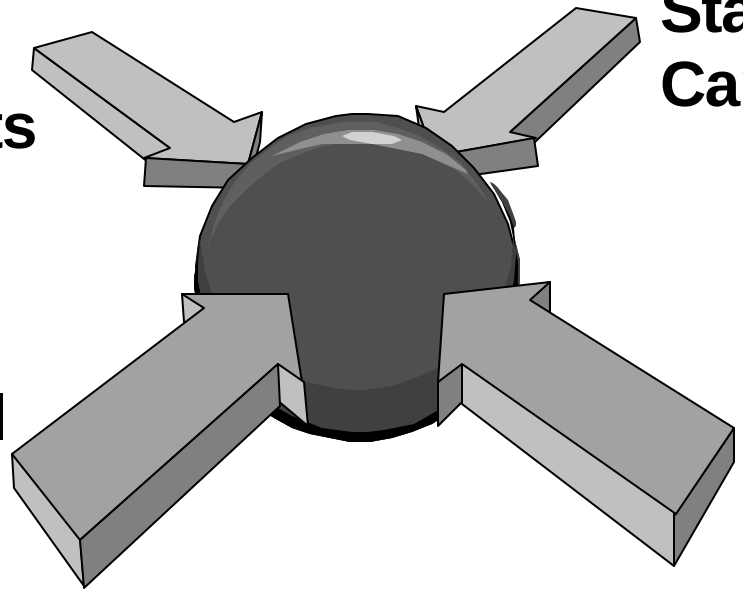
Functionality



Project Challenges

Maturation of Program Requirements

Non-Standardized Stakeholder Capabilities



Incremental Project Approach

Deployment within USEPA

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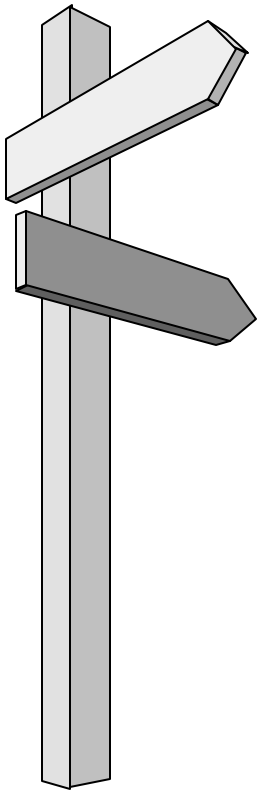
Future Activities



ON GOING

- Database and Application Development
- Data Upload Specifications
- Testing and Operational Refinement

NEAR TERM

- Deployment and Implementation

FUTURE

- Enhancement

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The National Environmental Laboratory Accreditation Program National Database

Status of Development Activities

NELAC Sixth Annual Meeting | Williamsburg, VA | June 28, 2000

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Project Scope

Phase I

Requirements Analysis

Phase II

Design

Phase III

Development Testing Deployment

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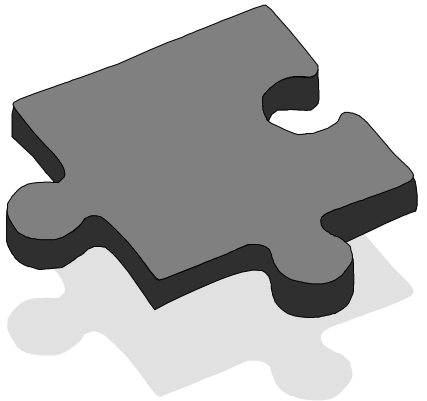
Requirements Analysis



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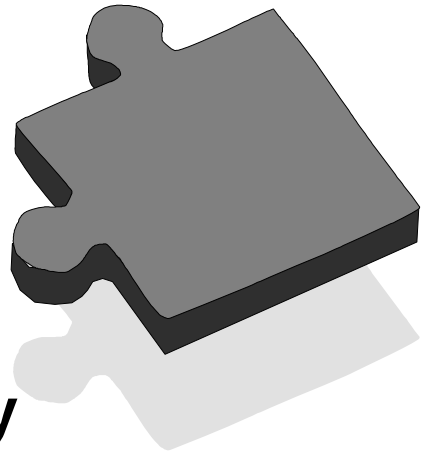

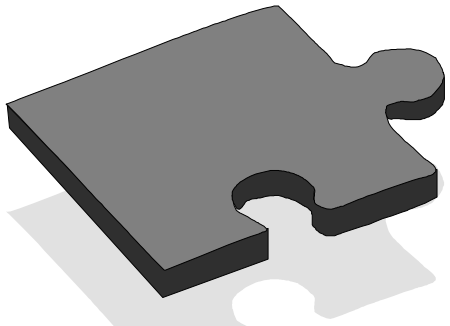

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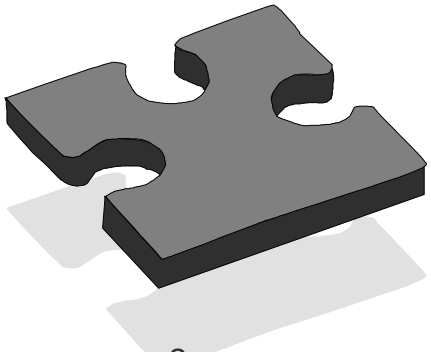

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Application & Database Design

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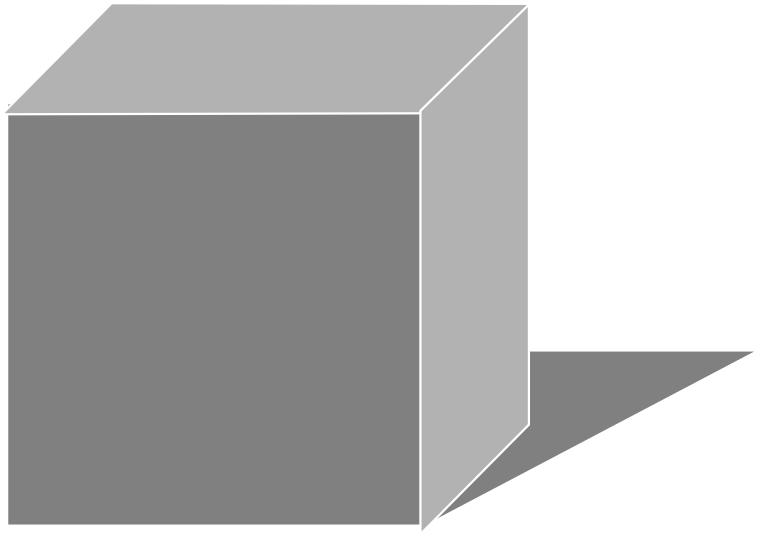

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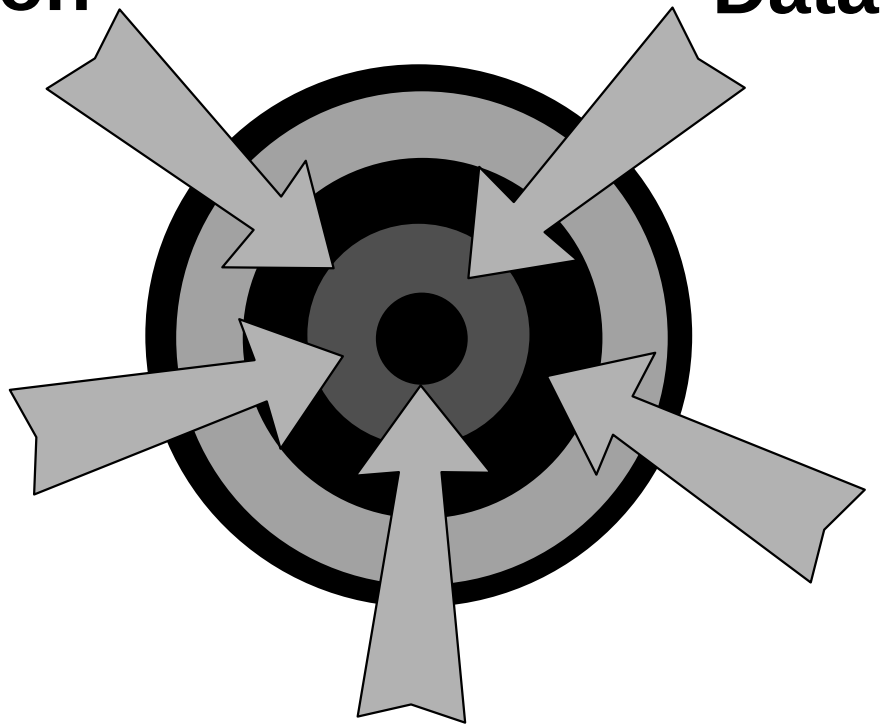
System Characteristics

Web-Based Application

Oracle Database



Management Reports

Electronic Change Notification

Integrated/Bulk Data Uploads

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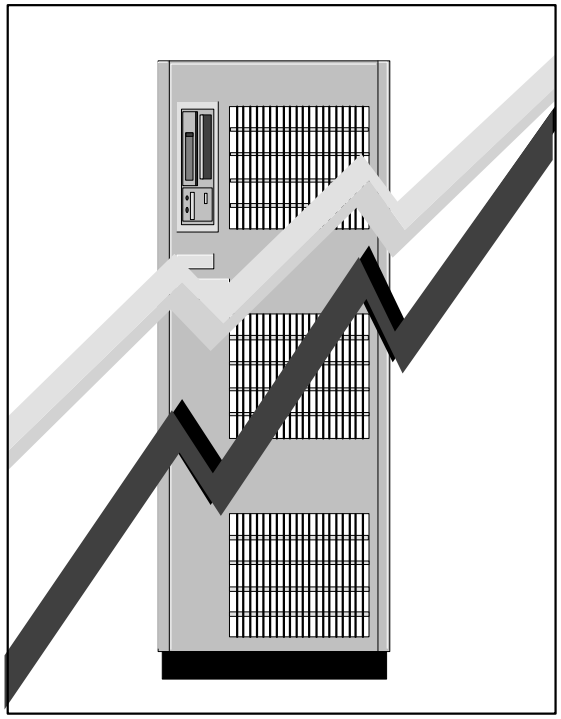
Designed Database Characteristics



- Oracle
- Relational
- Web Enabled
- Batch Uploading of Data
- Access via Internet
- Y2K Compliant
- ODBC Compliant
- EPA Operated
- EPA Maintained

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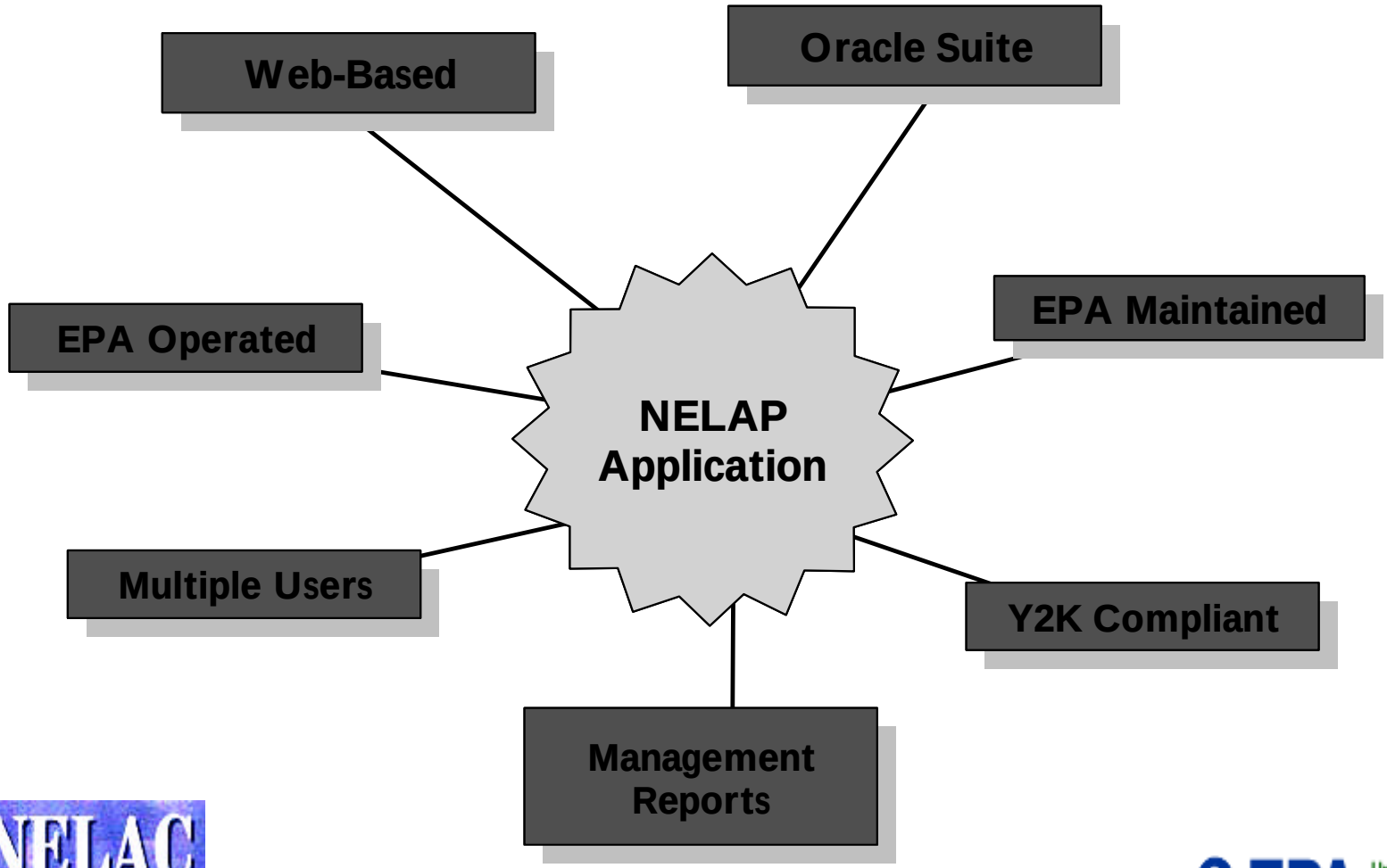
Designed Application Characteristics



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Designed System Functional Capabilities

- Recognized Accrediting Authorities (including associated reciprocity)
- Accredited Laboratories (including Fields of Testing)
- Third Party Assessors
- Proficiency Testers (NVLAP)
- Administration of the Accrediting Authority Recognition Process

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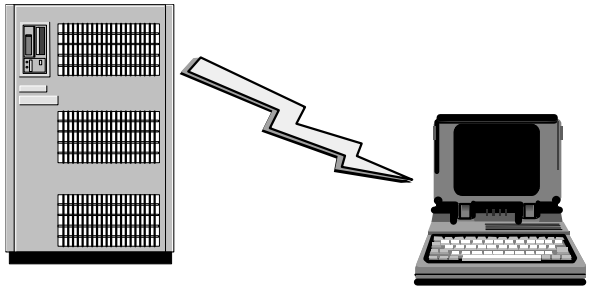
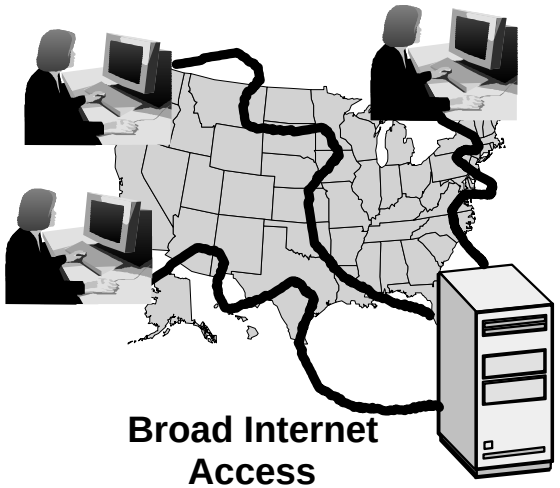
Designed System Operational Capabilities

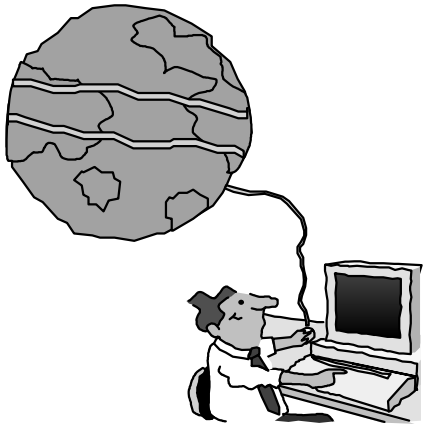


Automated Change Notification

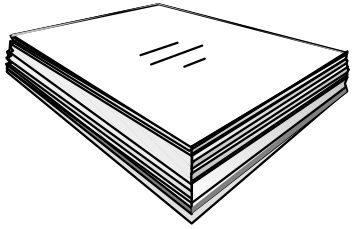


Broad Internet Access

Security



Bulk Upload Capability



Management Reports

Electronic Records Management

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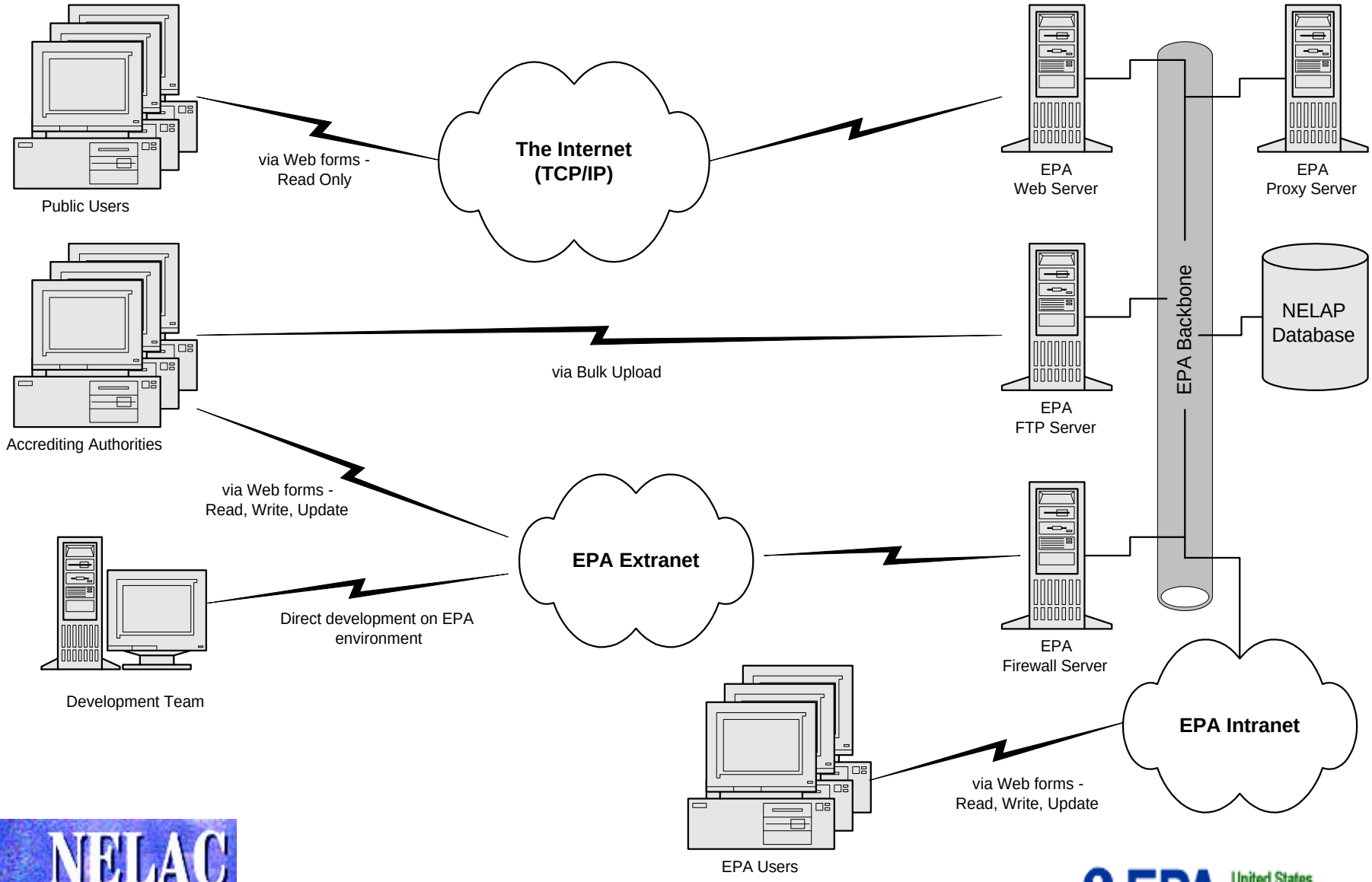
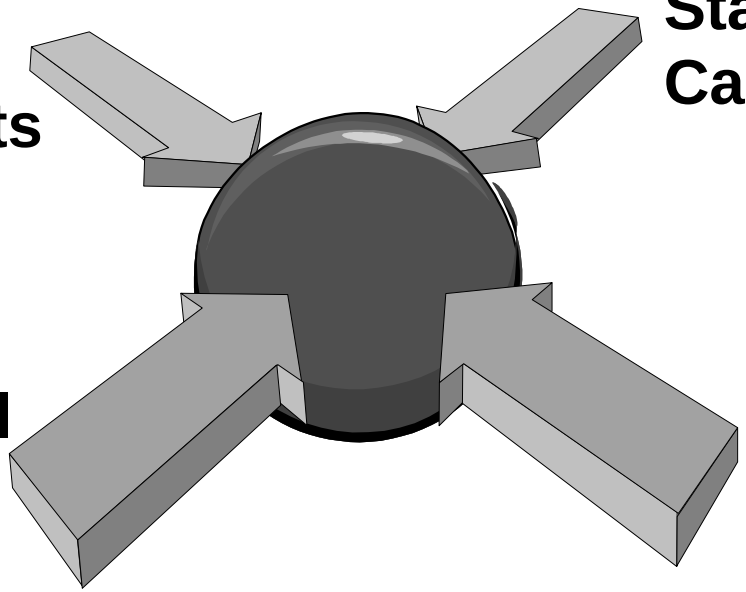
Designed Access Functionality



Project Challenges

Maturation of Program Requirements

Non-Standardized Stakeholder Capabilities



Incremental Project Approach

Deployment within USEPA

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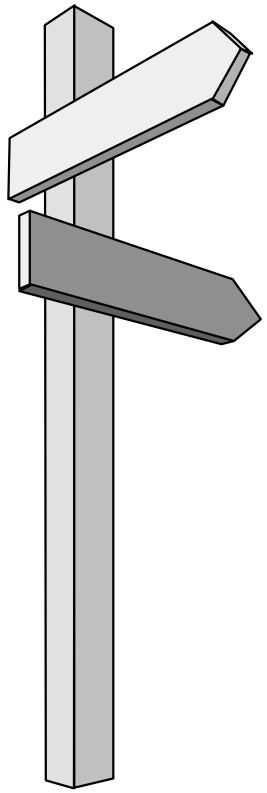
Future Activities



ON GOING

- **Database and Application Development**
- **Data Upload Specifications**
- **Testing and Operational Refinement**

NEAR TERM

- **Deployment and Implementation**

FUTURE

- **Enhancement**

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